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(54) **DATA-CENTRIC MULTI-LEVEL BLOCKING**

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(58) Field of Search **717/9**

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(57) **ABSTRACT**

A framework for improving program performance by
locality-enhancing transformations is presented. This frame-
work is appropriate for modern high-performance machines
that have a memory hierarchy. The invention orchestrates
the flow of data through the memory hierarchy directly, and
is thus able to overcome limitations of existing approaches.
This new approach allows for efficient execution of imper-
fectly nested loop programs which are ubiquitous in numeri-
cal calculations and database operations, and it can be
integrated into high-performance optimizing compilers.

12 Claims, 7 Drawing Sheets

